管院碩士班(含碩專班)課程大綱
MS/MA Program Syllabus

系所 Department	會資所 AIT	必選修 compulsory/elective	必修 Compulsory
課程名稱 Course title	SYSTEMS ANALYSIS AND DESIGN	學分數 Credit(s)	3
學年/學期 academic year/Semester	109-2 學期 Spring semester 2021	上課地點 Classroom	創新大樓 261 Room 261, IB
講授教師 Instructor	張碩毅 She-I Chang	上課時間 Time	Friday, 13:10AM~16:00
教師辦公室&諮詢時間 Instructor office number & office hour	TBA	教師聯絡資訊 Instructor Contact	Phone: 0958179190 Email: actsic@ccu.edu.tw
助教 Teaching assistant	TBA	助教 聯絡資訊 TA contact	Email: TBA
先修課程 Pre-requisite courses	Before we begin, we assume you've completed an introductory course in computer-based information systems. Many of you have also completed one or more programming courses (using technologies such as Access, Java, C/C++, or Visual Basic). That will prove helpful, since systems analysis and design precedes and/or integrates with those activities. But don't worry – we'll review all the necessary principles on which systems analysis and design is based.		
課程目標 Course Objective	Modern Systems Analysis and Design covers the concepts, skills, methodologies, techniques, tools, and perspectives essential for systems analysts to successfully develop information systems. This course provide a clear presentation of the concepts, skills, and techniques that students need to become effective systems analysts who work with others to create information systems for businesses. This course use the systems development life cycle (SDLC) model as an organizing tool throughout the topics to provide students with a strong conceptual and systematic framework. This is a practical course about information systems development methods. All businesses and organizations develop information systems. You can be assured that you will play some role in the systems analysis and design for those systems – either as a customer or user of those systems or as a developer of those systems. Systems analysis and design is about business problem solving and computer applications. The methods you will learn in this course can be applied to a wide variety of problem domains, not just those involving the computer. We start in **Part One – Foundations for Systems Development** (The Systems Development Environment, The Origins of Software, Managing the Information Systems Project) with fundamental concepts, philosophies, and trends that provide the context of systems analysis and design methods – in other words, the basics! If you understand these basics, you will be better able to apply, with confidence, the practical tools, and techniques you will learn in **Part Two – Planning** (Identifying and Selecting Systems Development Projects, Initiating and Planning Systems Development Projects). **Part Three - Analysis** (Determining		

	System Requirements, Structuring System Process Requirements, Structuring System Data Requirements). **Part Four - Design** (Designing Databases, Designing Forms and Reports, Designing Interfaces and Dialogues, Designing Distributed and Internet Systems), and **Part Five – Implementation and Maintenance** (System Implementation, Maintaining Information Systems). While providing broad coverage of the systems development life cycle, this course also presents topics that should be covered in any introductory systems analysis and design course. Such topics include business information systems concepts; mission statements; strategic planning; feasibility studies; fact-finding techniques; data flow diagrams; structured English; decision tables; decision trees; object-oriented analysis and design; enterprise computing; make or buy decisions; employee empowerment; prototyping; CASE tools; systems flowcharts; the use of codes; reducing input errors; data security; automated design tools; entity-relationship diagrams; cardinality; normalization; UML notation; database design and management; traditional file organization; online versus batch processing; centralized versus distributed processing; LANs and WANs; client/server systems; software engineering; unit, link, and system testing; documentation; training; systems changeover; post-implementation evaluation; support activities; maintenance activities; capacity planning; communication tools; feasibility and cost analysis tools; and project management tools. Each of these topics is covered in detail and clearly linked to the appropriated phase or phases of the SDLC, so that students understand where they fit with the larger systems development life cycle. More than ever, today's students are "consumer-oriented," due in part to the changing world economy, which promotes quality, competition, and professional currency. They expect to walk away from a course with more than a grade and a promise that they'll someday appreciate what they've learned. They want to "practice" the application of concepts, not just study applications of concepts. Given these themes, this course emphasizes the following: • A business, rather than a technology, perspective. The role, responsibilities, and mind-set of the systems analyst as well as the systems project manager, rather than those of the programmer or business manager. • Balance the coverage of concepts, tools, techniques, and their application. • Provide the most examples of system analysis and design deliverables available. • The methods and principles of systems development, rather than the specific tools or tool-related skills of the field.

<table>
<tr><td colspan="5">AACSB 學習品質保證學習目標 Assurance of Learning (AOL) Learning goals
*請先選填為主要或次要學習目標(Major or minor learning goal)，再選擇對應之學習目標</td></tr>
<tr><td colspan="2">主要學習目標 Major learning goal
目標 1：知識整合
LG1:Knowledge Integration</td><td colspan="2">次要學習目標 Minor learning goal
目標 2：創造力與創新
LG2:Creativity and Innovation</td><td>次要學習目標 Minor learning goal
目標 4：全球視野 LG4:Global Perspectives</td></tr>
<tr><td>教材
Teaching materials</td><td colspan="4">Joseph S. Valacich and Joey F. George Modern Systems Analysis and Design, Ninth Edition, 2021, Pearson Education Limited, ISBN-13: 9781292351629。</td></tr>
<tr><td>網址 Course website</td><td colspan="4">The text includes chapter PowerPoint slides and other resources. Course Materials also can be found from the Online Learning Center Valacich & George, Modern Systems Analysis and Design, Global Edition, 9th Edition | Pearson. Also, lecture materials can be found from the CCU eCourse II website https://ecourse2.ccu.edu.tw/index.php</td></tr>
<tr><td>教科書/參考書
Textbooks/Reference</td><td colspan="4">陳鴻基、嚴紀中譯，系統分析與設計，五版，2008，華泰文化事業股份有限公司， ISBN: 978-957-609-745-4。</td></tr>
<tr><td rowspan="3">評量方式(請填百分比)
Assessment</td><td>1.章節與案例分享 Chapter/Case Study & Presentation</td><td>10 %</td><td>4.系統分析與設計規劃書 Report for Systems Analysis and Design</td><td>20 %</td></tr>
<tr><td>2.作業 Tutorial</td><td>14 %</td><td>5.文獻討論 Literature Review and Presentation</td><td>10 %</td></tr>
<tr><td>3.期中考 Mid-Term Examination</td><td>20 %</td><td>6.文獻報告 Report for Literature Review</td><td>26 %</td></tr>
<tr><td>其他說明
Other description</td><td colspan="4"><u>Assessment 1: Chapter/Case Study & Presentation</u>

At postgraduate level you are not only assessed on your ability to recite facts or reproduce information from sources such as texts, journals or lectures. What is assessed varies to some extent. It may include your ability to interpret a question intelligently, to demonstrate your depth of understanding of a topic or to critically analyze and report upon a situation. In all cases, your ability to organize information from various sources into a clear, concise and logical form of presentation/document will be central to your success. This assignment provides you with the opportunity to become thoroughly familiar with the bibliography of specialized literature relevant to the field of SA&D. During the semester week, each student will do the presentation of their selected/assigned chapters.

(i) The presentation will be limited to 30 minutes.
(ii) Weighting 10%
(iii) Approximate Date Due: Weekly

<u>Assessment 2: Tutorial</u>

The Management Division of CCU requires regular attendance by students in each unit. Class attendance is useful to the student as a means of acquiring knowledge and clarification, and is a prerequisite for class participation. Class Participation and Tutorials are the active engagement in questions and answers, taking part in analyses of business situations, and contributing</td></tr>
</table>

comments in class sessions. The **Class Participation and Tutorials grade** will be evaluated and based on the quality of comments made during the tutorial sessions and the answers of "**True/False Questions**", "**Multiple Choice Questions**" and "**Short Answer Questions**", but not the quantity of comments. This assessment will be completely conducted at the **class** during the semester. This will provide you with a detailed understanding of the nature of the Systems Analysis and Design related issues and continuous feedback.

(i) The Tutorial will be hand in weekly.
(ii) Weighting: (1% x 14)
(iii) Approximate Date Due: **Weekly**

Assessment 3: Mid-Term Examination

This Mid-Term examination addresses your general understanding of systems analysis and design and its related applications. It will include true/false, multiple choice, and short answer questions addressing the appropriate unit chapters.

(i) Weighting 20%
(ii) Approximate Date Due: **Week 10**

Assessment 4: Report for Systems Analysis and Design

The System Analyst must prepare many reports during the System Development Life Cycle (SDLC), including the preliminary investigation report, the system requirements documents at the end of the systems analysis phase, the system design specification at the end of the system design phase, and the final report to management when the system goes into operation. The analyst also might submit other reports such as status reports, activity reports, proposals, and departmental business plans. In some cases, the analyst must also present reports more formally. In this team project, you need to choose a company, preferably with in excess of 50 employees in Taiwan, and prepare a System Requirements Document, which includes an Executive Summary, Introduction, System Analysis and Design, Implementation Strategy and Method (i.e. Time and Cost Estimates, Expected Benefits), and an Appendix to report your investigation on the organization's applications and requirements of Information Systems (IS) or Information Technology (IT) in relation to their day-to-day business.

Requirements

This is a team assignment where you may work in groups of **2**. All members of the team will receive the same mark.

(i) Prepare a **15-minute final presentation** to be presented in **Week 11**. The presentations will be accompanied with a summary of the main points raised in the System Requirements Document Report and recommendations to the entire class. The presentation handout will be distributed to other class members. When preparing an oral presentation, keep in mind the following suggestions: define the audience, define the objectives for your presentation, organize the presentation,

define any technical terms you will use, prepare your presentation aids, and practice your material.

(ii) The System Requirements Document Report will be required in between **20 – 30 pages** in length (including all appendices and references) and submitted in soft and hardcopy by the due date to the lecturer.

Assessment

The team projects have two purposes: to allow students to gain facility with some of the tools available for systems analysis, and to provide students with a realistic systems analysis experience. The final presentation and printed documentation from each team will be the basis of the grade assigned. The criteria for evaluation include the clarity of the description of the current system, the quality of the design proposed in terms of its ability to improve the system's effectiveness, the clarity and completeness of the description of the proposed system, and the feasibility of the implementation plan.

Your team will be assessed as follows:

The System Requirements Document Report	15 marks
Presentation	5 marks

All members of the group will get the same mark. You are encouraged to form a group and work together to prepare an answer. **It is important that all members are involved in ALL aspects of the assignment.** The practice of splitting the work and each person doing their component of the assignment is not recommended. Conflicts within a group must be bought to the attention of the Unit Coordinator 3 weeks before the due date so appropriate action can be taken to resolve the issues. You will be assessed in relation to the presentation, The System Requirements Document Report content and demonstrated understanding of the business and the impact of electronic commerce. The length of the assignment will reflect the weighting of the assignment and that it is a group exercise. A considerable amount of material will need to be covered. Students will be expected to demonstrate an understanding of the material and issues involved.

For written reports 20% weight is on explanation of the case, 50% weight is on documentation, analysis and recommendation of the report and 12% weight is on presentation of the report in logical sequence with relevant graphs, charts, tables, diagram and figures. Written application with sufficient reason prior to due date may relax penalty clause. Otherwise, 8% deduction will apply for each day late in submission. Extension on assignments will not be accepted without prior approval of the unit coordinator. Late assignments will incur a penalty of two (2) marks deducted for each day late. Not submitting an assignment does not automatically lead to a fail grade for this unit, students who do not submit assignments will receive a mark of zero for that assignment.

Notes on Forming Teams

This piece of assessment utilizes a team size model of team formation with

students forming groups according to major, academic standard, geographic proximity, and/or cultural background. On forming the group all group members should discuss their expectations in relation to academic outcomes and time commitments and come to an agreement. **A team size of 2 has been chosen to provide teamwork experience without team management issues becoming a major issue.**

To be further advised
(i) Weighting 20 %
(ii) Approximate Date Due: **Week 11**

Assessment 5: Literature Review and Presentation

Weekly ERP Chapter/Paper Review and Presentation provide the theoretical foundations for the entire course. Introduces the basic drivers for integrated database applications and examines the issues relating to the difficulties in integrating legacy systems. Also, how ERP is evolving to respond to developments in the e-Business and e-Commerce. Further, this module briefly examines the issues involved in gaining business benefit from ERP systems through a focus on improving business processes and gaining greater effectiveness and efficiencies in this domain. Discusses common business processes and structures to give a better understanding of a process view of and organization and how it might be modeled and supported in an enterprise system. Modeling organizational processes and developing basic skills in Event-driven Process Chains. Examine some reference models for common business processes. **This module lasts about 7 weeks.**

At postgraduate level you are not only assessed on your ability to recite facts or reproduce information from sources such as texts, journals or lectures. What is assessed varies to some extent. It may include your ability to interpret a question intelligently, to demonstrate your depth of understanding of a topic or to critically analyze and report upon a situation. In all cases, your ability to organize information from various sources into a clear, concise and logical document will be central to your success.

You will be assessed as follows:

(i) A **30 minutes** presentation to be presented in elected Week during the semester. The presentations will be accompanied with a detail of the main points raised in the Paper to the entire class.
(ii) Submitted in your softcopy of the presentation (PPT) or addition materials to the Teaching Assistant by weekly.

Weighting: 20 %
Approximate Date Due: **Week 12 ~ 18**

Assessment 6: Report for Literature Review

This assignment meets the course aim of development of research skills by extending and refining skills related to identifying, retrieving, analyzing and

	reporting on information relevant to your chosen field of specialization. As stated previously, this assignment provides you with the opportunity to become thoroughly familiar with the bibliography of specialized literature relevant to SA&D related research. This foundational work underpins your master research as literature review is a key element of the research process. This is a team assignment where you may work in **individual**. On completion of the unit you will be able to: • Demonstrate a thorough grasp of the bibliography relating to SA&D research ar • Locate, collect, organize and critically evaluate specialized contributions in SA& related field of expertise • Present the results of your bibliographical research in a cogent and critica enlightened manner Study in this unit will enhance generic skills. Especially skills of critical, creative and analytical thinking, and effective problem-solving. By preparing your literature review you will develop: • the ability to critique current paradigms and contribute to intellectual inquiry • the capacity to exhibit creative as well as analytical ways of thinking abo questions in SA&D related field of expertise • the ability to identify and define problems in this area. You will follow a course of readings in consultation with your lecture. You will also be instructed in the techniques of information retrieval, data collection, and bibliographies relevant to the research area. Regular meetings can be scheduled by appointment during which you and your lecturer will discuss your progress. Your lecturer will provide regular feedback over the semester designed to help you identify knowledge needs and continually improve the quality of your work (formative assessment). Summative assessment will be in the form of a **20 - 30 page** report on the literature relating to SA&D related field of research. It is expected that this literature review would constitute of the necessary section of your research. **Detailed format of Literature Review is to be further advised. During the Week 12**, each student will submit written report and presentation of their selected Literature Review. The presentation will be limited to **10 minutes**. Assessment Criteria: • Breadth, depth and currency of reading in the topic area • Evidence of critical discernment in evaluating existing literature • Adherence to professionally acceptable standards of presentation • Relevance of the review to the definition of the nominated field of research to Useful references:

- Barzun, J. & Graff, H.F. (1992). The Modern Researcher (5th ed.). Bosto Houghton Mifflin Co.
- Hart, C. (1998). Doing a literature review: releasing the social science resear imagination. London: Sage.
- Powell, S. (1999). Returning to study: guide for professionals. Buckingham: Op University Press.
- Slade, C. (2000). Form and style: research papers, reports, theses (11th ed Boston: Houghton Mifflin Co.
- Strunk, W. & White, E.B. (1999). The elements of style (4th ed.). Boston: All and Bacon
- Swetnam, D. (1997). Writing Your Dissertation: How to Plan, Prepare and Prese Your Work (2nd ed.). Oxford: How to Books

To be advised for the format and further details.

(i) Approximately **10 minutes** presentation to be presented in **Week 18** during the semester**.** The presentations will be accompanied with a detail of the main points raised in the Literature to the entire class.
(ii) The Literature will be required **20 - 30 pages** in length (including all tables, figures, appendices and references) and submitted in **soft** and **hardcopy** by the **Week 18** to the Teaching Assistant.
(iii) Weighting: **26 %** (Presentation 10% + Literature Review Report 16%)

REQUIREMENTS

Class Meetings
You are required to attend all class meetings. If you miss a meeting, it is *your responsibility* to obtain notes from a fellow student. Office hours *are not* meant for individual lectures.

Readings
You should read the chapters and/or articles listed in the schedule before the class in which they will be discussed.

Web Sites
Whenever you have to read a chapter, you must also log on to the site of the organization that is the subject of the chapter, and update your knowledge about the organization's activities as part of preparing for class discussion. It is your responsibility to look the site up on the Web.

OUTSIDE CLASS COMMUNICATION

You are encouraged to exercise your right to own a College user ID and use it for electronic mail. (Note that students are also entitled to maintain their own Web site, up to 50MB in size.) Please feel free to communicate with me by phone, e-mail, fax, and my mailbox on campus. Use my office hours whenever you feel you need to. If you wish to meet with me outside my office hours, contact me and I will make every effort to work out a time to fit your schedule.

PROHIBITION ON SOFTWARE COPYING

Students in this course will use the College's Microcomputer Laboratory and software designed to run on personal computers. Much of this software is of a proprietary nature, and its duplication is strictly prohibited. Unauthorized copying is prohibited by the University, and may violate the University's software licensing agreements and various government laws. Any student who engages in unauthorized software copying will be subject to harsh penalties.

CELLUAR PHONES, BEEPERS, AND OTHER ANNOYNACES

Cellular phones and beepers must be turned off before entering the classroom. If your device emits any sound during class session, you will be invited to leave the classroom and not return.

ACADEMIC INTEGRITY

Academic integrity is the pursuit of scholarly activity free from fraud and deception and is an educational objective of this institution. Academic dishonesty includes, but is not limited to: cheating, plagiarizing, fabricating of information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. At the beginning of each course it is the responsibility of the instructor to provide a statement clarifying the application of the academic integrity to that course. (Policies and Rules: A Handbook for Students)

課程規劃表 Course Schedule

週次 week	日 期 Date	內容 Description	教材章節 Textbook	其他說明 Remark
1.	2/26	**System Analysis and Design - An Introduction**		
2.	3/05	The Systems Development Environment The Origins of Software Managing the Information Systems Project **Systems Analysis and Design Report (Introduction)**	Chapter 1, 2, 3 **Tutorial 1, 2, 3**	Part One: Foundations for Systems Development
3.	3/12	Identifying and Selecting Systems Development Projects Initiating and Planning Systems Development Projects Determining System Requirements **Systems Analysis and Design Report (Group Discussion)**	Chapter 4, 5, 6 **Tutorial 4, 5, 6**	Part Two: Planning
4.	3/19	Structuring System Process Requirements Structuring System Data Requirements Designing Databases **Systems Analysis and Design Report (Group Discussion)**	Chapter 7, 8, 9 **Tutorial 7, 8, 9**	Part Three: Analysis
5.	3/26	**Systems Analysis and Design (Guest Speaker)** **Systems Analysis and Design Report (Group Discussion)**		管院講座
6.	4/02	兒童節、民族掃墓節同一日補假（依行政院公告）		
7.	4/09	Designing Forms and Reports Designing Interfaces and Dialogues Designing Distributed and Internet Systems **Systems Analysis and Design Report (Group Discussion)**	Chapter 10, 11, 12 **Tutorial 10, 11 12**	Part Four: Design
8.	4/16	System Implementation Maintaining Information Systems Case Study for Systems Analysis and Design **Systems Analysis and Design Report (Group Discussion)**	Chapter 13, 14, Case 1	Part Five: Implementation and Maintenance
9.	4/23	Case Study for Systems Analysis and Design **Systems Analysis and Design Report (Group Discussion)**	Case 2, 3, 4	Cases
10.	4/30	**Mid-Term Examination**		
11.	5/07	**Systems Analysis and Design Report (Presentation)**		
12.	5/14	**SA & D Related Literature Review and Introduction**		
13.	5/21	SA & D Related Paper Review and Presentation	Paper 1, 2, 3, 4	
14.	5/28	SA & D Related Paper Review and Presentation	Paper 5, 6, 7, 8	
15.	6/04	SA & D Related Paper Review and Presentation	Paper 9, 10, 11, 12	
16.	6/11	SA & D Related Paper Review and Presentation	Paper 13, 14, 15, 16	
17.	6/18	SA & D Related Paper Review and Presentation	Paper 17, 18	
18.	6/25	**SA & D Related Literature Review and Report**		

Note: This schedule is subject to change.